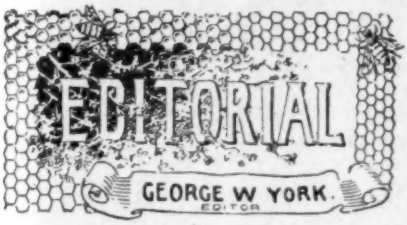
ESTABLISHED IN 1861

THE AMERICAN BEE JOURNAL

OLDEST BEE-PAPER IN AMERICA

Weekly, $1 a Year. | DEVOTED EXCLUSIVELY—TO BEE-CULTURE. | Sample Copy Free.

VOL. XXXIII. CHICAGO, ILL., FEB. 8, 1894. NO. 6.



Be Assured, once for all,
That no step is in vain
Which is made against wrong,
In defence of the right;
And that every true thought
Is a tangible gain
Toward putting the legions
Of error to flight.
Then continue to hope,
While you do what you can
For the progress of truth
And the glory of man.—*Selected.*

World's Fair Pictures—did you read about them on page 165 of this number of the BEE JOURNAL?

Three Welcome Visitors favored us with their beneficent presence one day last week. They were Dr. C. C. Miller and "the two blessed women" that help to make his life so happy—Mrs. Miller and her sister, Miss Emma Wilson. What a joyful trio they are! And it's hard to tell which of the three enjoys this life most. The BEE JOURNAL not only invites them to come often, and stay longer, but wishes them all long life and Heaven's best blessings.

The Stinger and Rambler.—These "conumberfums" are sent us by Bro. C. H. Pond, of Kasson, Minn., for the benefit of "The Stinger" and "Rambler:"

Why is the AMERICAN BEE JOURNAL's "Stinger" like the American hedgehog? Ans.: Because he carries a back load of stings.

Why is a "kid" playing in front of a hive of bees like *Gleanings'* Rambler? Ans.: Because if he doesn't keep quiet, he is sure to get stung.

Prof. Cook is the new President of the California State Bee-Keepers' Association. That's a mutual honor, deserved by both Association and Professor. Rambler was re-elected Secretary, and Bro. Geo. W. Brodbeck, the retiring President, was elected Treasurer. That's a strong set of officers. The report of the meeting held on Jan. 23rd and 24th, will appear soon in the BEE JOURNAL.

To Protect Bee-Keepers.—At our last meeting of the Illinois Bee-Keepers' Association, the following was adopted, relative to the petition following, etc.: That each member be requested to send a copy of the petition to his various members of Congress, soliciting their assistance in having it enacted into law:

To the Honorable—the Senate and House of Representatives of the United States:—

The Illinois State Bee-Keepers' Association, in meeting assembled, by unanimous vote petition your honorable bodies to make and enforce laws forbidding the sale of any article under the name of "honey," unless it be the natural product of flowers and plants, naturally gathered by the bees from the plants themselves, and marked with the name and address of the bee-keeper.

Your petitioners further beg leave to state

that the Conger "Pure Food Bill," as presented at the last session, is in accord with the wishes of the Association.

JAS. A. STONE, *Sec.*

The Illinois Association, at its last meeting, also instructed the Secretary to send out return postal cards to each of its members, on or before the 15th day of May, July, September and October, with the following questions:

1st. The number of colonies.
2nd. The prospect of a honey crop.
3rd. The amount of honey gathered to date.
4th. Is the honey gathered No. 1 or not?

The returns are then to be published each month in the bee-papers.

In order that this move be made highly beneficial, there should be a large membership, that they may receive their return cards; and also their dollars are needed to bear the expense of issuing the cards, and to have them printed ready for issuing.

In this way it can be known all over the country just the condition of bees and the prospect of the honey crop. Just join the Illinois Bee-Keepers' Association, and then read the bee-papers. Address the Secretary Jas. A. Stone, Bradfordton, Ills.—for any further information desired.

Destroying Ants.—The following remedies for getting rid of ants may be a help to some bee-keeper. We don't guarantee them, but they may be worth trying. Here they are:

You can destroy any kind of ants in their nest by pouring in about a table-spoonful of bisulphide of carbon through the entrance, and then stopping it up.

A druggist, much annoyed by ants about his soda fountain, found a combination that destroyed them—a powder of equal parts of sugar and tartar emetic, made into a thick paste with glycerine.

The Amende Honorable.—A few weeks ago we felt called upon to correct a statement made in *Gleanings*, by Bro. Root, and here is the graceful explanation and apology we fully expected would follow. It appeared in *Gleanings* for Feb. 1st, and reads thus:

Bro. York, of the AMERICAN BEE JOURNAL, calling attention to the fact that we said that Prof. Cook had been writing more sugar-honey articles for the agricultural papers, says Prof. Cook has not written for such papers for months. That we did see articles on the subject of sugar-honey, signed by Prof. Cook, we are certain; but we now think they must have been reprints of old articles not credited, that friend Cook wrote a year or so ago for the apicultural journals. We have mislaid the papers, so that we cannot now refer again to them. You see when a thing once gets started, it is hard to stop it. We accept the correction with thanks, and hereby tender our apology to Prof. Cook.

We are glad that no more articles will soon appear in favor of sugar-honey. But it will take a long time to undo the dreadful influence of those written a year or so ago. Verily, 'tis harder to stop than to start an unwise thing.

Open Light Bee-Escape.—Mr. Jas. H. Davis, of Danville, Ky., has sent us one of his metal bee-escapes. He calls it an "open light bee-escape"—a device that he uses in controlling swarming. It is also used as an admitter, as well as an escape. The use of something the bees can see through introduces a new element into escapes, and it may be of value; but you never know how a new thing may be in practice when the bees test it. The "admitter" part is not quite understood. Perhaps Mr. Davis will explain it for the benefit of our readers.

Somewhat Mixed.—The St. Louis *Journal of Agriculture* has been getting things a little mixed. Here is the item that shows someone was a trifle "off" when writing it for that paper:

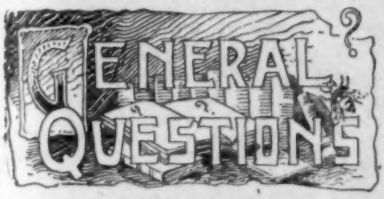
Excellent vinegar and wine can be made from honey. Dr. Miller says, in the AMERICAN BEE JOURNAL, that if barley were $1.50 a bushel, honey would be used largely in brewing.

The idea of Dr. Miller suggesting the using of honey in brewing! That's a pretty good joke on the Doctor, who writes "temperance 'stray straws.'"

The fact is, that at the North American convention, Dr. Miller said: "You can make excellent vinegar with honey." And Bro. Muth followed with this remark: "You can also make excellent wine from honey. If barley were $1.50 per bushel, honey would be used largely in brewing."

That's the "long and short" of it—Bro. Muth being the "long" (or tall), and Dr. Miller the "short."

Visit the World's Fair for only 20 cents. See page 165.



ANSWERED BY

DR. C. C. MILLER,
MARENGO, ILL.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Rearing Queens for Home Use.

Can you give an easy method of queen-rearing on a small scale, for 20 to 40 queens in a season? I wish to rear about 30 queens to Italianize my apiary, and would like to do it before the honey-flow in the spring, if possible; but I don't know how to do it, or if it can be done. G. D. L.

Tacoma, Wash.

ANSWER.—If you want to supply all your queens before the honey-flow in the spring, perhaps the easiest and surest way will be to send south and buy queens. For good queens depend much upon season and weather, and you need not expect to succeed in rearing them in advance of the honey-flow. If it were otherwise, you would not find the most expert queen-breeders complaining that they could not fill orders in time because the season was against them. Study up thoroughly in the books, or in some one good book, the general principles of queen-rearing, and then you will still find you have something to think over to know just how to make them apply to your particular needs.

Candy for Winter Feeding.

I have several colonies in the cellar—some rather light in stores. I wish to place candy on top of the frames under the quilts. 1. How can I make the candy for cellar feeding? I have Phenix R sugar—will that do? 2. Would it be better to use part honey in making candy? If so, what proportion?

I have just been looking over the last two volumes of the BEE JOURNAL, but I do not find what I wish. But believing this an age of improvement, I would rather hear the advice of the present time. C. B. H.

Wellsville, N. Y.

ANSWERS. — 1. Any brand of pure granulated sugar is good, and, on the whole, probably nothing is cheaper. That's for making hard candy, which needs no honey, and is made by boiling, like any candy.

2. Of late, what is called Scholz or Good candy, is much used. I quote from Root's A B C instructions for making, as follows:

"Take good, thick honey and heat (not boil) it until it becomes very thin, and then stir in *pulverized* sugar. After stirring in all the sugar the honey will absorb, take it out of the utensil in which it is mixed, and thoroughly knead it with the hands. The kneading makes it more pliable and soft, so it will absorb, or, rather, take up, more sugar."

Lots of kneading seems to be very important, and when it is done you will have a stiff dough. After standing, however, it doesn't always stay just the same, and it wouldn't be a bad plan before giving it to the bees for you to let it stand a day or two in the same atmosphere the bees are in. If it remains without change, all right; but if it gets thin, you can knead in more sugar.

Several Hives in One Box.

I have my bees in long boxes, each holding 10 colonies, and room for chaff over and around them. I placed them in these boxes early last fall, and ever since I have noticed an undue amount of dead bees at the entrance. We have had a very light winter so far, bees have flown almost every day, and should have wintered well, as they have plenty of sealed stores.

1. Do bees, when placed as above, all using one general entrance, get in the wrong hive and get stung? If so, could I remedy this by making a long box wide enough to take the frames, this box to be placed in the larger box, and the box to be placed in it and separated only by queen-excluding division-boards?

2. Would the bees, on being suddenly turned together, fight and kill each others' queens? If so, could I prevent this by using wire-cloth division-boards until they became of one scent? If not by this means, by what other means could it be done?

I wish to leave them in this box all summer. I will remove the sides and

ends and the roof will act as a shade. Later, when Spanish needle blooms, and the nights become cool I will replace the sides and chaff, so that comb building will not be retarded for want of heat during the night. A. M. T.

Bronaugh, Mo., Jan. 24, 1894.

ANSWERS.—I think I can answer your questions more satisfactorily to answer them all in a lump. If I understand you correctly, you have one general entrance for all the colonies. That will hardly do. When the bees are busy at work in the fields they may stand mixing up in all sorts of ways, but at other times it isn't so safe. Neither do I believe it best for you to have them so the bees of any two colonies can mix, outside of the working season. I know that a good deal is being said just now, especially across the water, about having two colonies together, and it may do to try it carefully on a small scale, but I wouldn't run the risk of mixing several colonies and queens.

I think your idea is to have the advantage of the heat of several colonies together, and it looks reasonable that much should be gained by it. But you never know till you try, what the bees themselves will think about it.

I would advise you to have your colonies entirely separated, perhaps by board partitions, and these may be only a quarter of an inch thick, then let each one have an entirely separate entrance, by some kind of a tube as a passage from the colony to the outer air. Posts or boards, or trees, anything to make the entrances unlike, will be a help.

Be sure to let us know how your experiment turns out.

A Scheme for Swarming-Time.

Will you kindly give me your opinion as to the probable success or failure of the following scheme?

We will suppose it is swarming-time, and a swarm issues. I remove the parent colony to a new location. I then hive the swarm on the old stand in a hive containing starters, and one frame of brood with queen-cells from the parent colony. I at the same time secure the queen as the swarm enters the hive, and return her to the parent colony. Now I query:

1. Will the swarm "stay put?"
2. Will the queen stay in her former home, or will she go looking for the swarm?
3. Will it be necessary to remove queen-cells from the parent colony?
4. Suppose the plan, as outlined above, works all right thus far, will there be any advantage in it, aside from the more rapid building up of the parent colony? J. L. M.

Clark's Corner, Conn.

ANSWERS.—1. Yes.

2. She'll stay where you put her.

3. I think not.

4. I don't believe you'll like it. The swarm will be a week or more without a queen, and during that time will not make rapid work building comb, what they do build being drone-comb principally. (I dont believe I would use starters, anyway, for even with a queen you will get more drone-comb than you want. Use full sheets of foundation.) There is no brood to hatch out except the one comb, and the young queen will not be laying for two or three weeks. All that will interfere materially with your honey crop, and, remember, it is your swarm that you expect to do the storing.

Convention Notices.

WISCONSIN.—The Wisconsin Bee-Keepers' Association will meet in Madison, Wis., on Feb. 7 and 8, 1894. An interesting meeting is expected. It is earnestly hoped there may be a full attendance. J. W. VANCE, Cor. Sec.

Madison, Wis.

KANSAS.—There will be a meeting of the Southeastern Kansas Bee-Keepers' Association on March 16, 1894, at the apiaries of Thomas Willett, 5 miles northeast of Bronson, Bourbon Co., Kansas. All are invited to come. J. C. BALCH, Sec.

Bronson, Kans.

TEXAS.—The Texas State Bee-Keepers' Association will hold their 16th annual meeting at Greenville, Tex., on Wednesday and Thursday, April 4 and 5, 1894. Everybody invited. No hotel bills to pay. We expect a large meeting and a good time. Don't fail to come.

Beeville, Tex. E. J. ATCHLEY, Sec.

Honey as Food and Medicine is just the thing to help sell honey, as it shows the various ways in which honey may be used as a food and as a medicine. Try 100 copies of it, and see what good "salesmen" they are. See the third page of this number of the BEE JOURNAL for description and prices.

A Binder for holding a year's numbers of the BEE JOURNAL we mail for only 50 cents; or clubbed with the JOURNAL for $1.40.

Have You Read the wonderful Premium offer on page 165?

The Ohio Honey Exhibit.—This week, instead of our usual biographical department, we have a large picture of the Ohio honey exhibit at the World's Fair, with its capable and genial Superintendent—Dr. Mason—shown at the left. (Of course, the Doctor belongs with the exhibit, else he wouldn't form such a conspicuous part of it. But as Ohio can boast of no "sweeter" man in her ranks of honey-producers, his appearance in the picture is very appropriate.)

Ohio's World's Fair Honey Exhibit, with Dr. A. B. Mason on the Left.

The following interesting description was furnished for *Gleanings* by the Doctor, which will doubtless be read with much pleasure by all, whether they were permitted to see the exhibit or not:

The frames, or honey-stands [inside the case], as we called them, were made of inch gas-pipe, four pieces on each side, and one between at each end mak-

ing ten risers, or supports, in each stand. Each support had a cast-iron bottom to rest in, and the tops were screwed into brass pieces that held them in place. On these supports were iron rests that could be fixed at desirable heights, on which were placed glass shelves on which to display both comb and extracted honey. There were two of these stands, each 4 feet wide at the bottom, 4 inches at the top, and 6 feet high. They were 8 feet long at the bottom, and about 5 feet at the top. One end of each of these honey-stands was placed about 22 inches from the ends of the case, leaving about 5 feet in the center between the inner ends of the stands. In the center of this space was an iron standard 6½ feet high, with iron supports for nine glass shelves. The shelves were eight square, the lower one being about 3 feet across, and the upper one a foot across.

On this center pyramid were displayed comb and extracted honey, fancy pieces of beeswax, and about 30 varieties of honey-plant seeds—most of the seeds being furnished by A. I. Root; the rest were furnished by myself. The beeswax was part of about 40 pounds produced and loaned to the exhibit by Milo George, of Bowling Green, and was admitted by all to be the finest wax on exhibition. It was just as it came from the solar extractor, not having been clarified in any way. It received an award.

The comb honey on the side of the pyramid shown in the picture, was a portion of 100 pounds in 96 one-pound sections, produced and loaned to the exhibit by Vernon Burt, of Mallet Creek, about three miles from Medina. The sections were well filled out to the wood, the 96 sections containing 100 pounds of honey, the combs being even and white. They received an award. Mr. Burt also loaned to the exhibit a very fine, strong colony of bees; most of the bees, however, were smothered on their journey.

The comb honey, on the opposite side of the pyramid from Mr. Burt's, was a part of about 650 pounds produced and loaned to the exhibit by C. E. Boyer, of Ainger. When I called on Ohio bee-keepers for honey, etc., for the exhibit, Mr. Boyer was the first to respond, with an offer to loan from 300 to 400 pounds of comb honey, which he afterward increased. The honey was in nice, white four-piece sections, some of them being almost perfectly filled to the wood. Most of the comb was very white, and all was evenly capped, some of the sections being among the most perfect, if not the most perfect on exhibition. Most of the comb honey in the Ohio exhibit was from Mr. Boyer, and received an award. Evidently Mr. Boyer had "an eye" on the Exposition, for I learned from him, when he was at the big show in October, that some of his honey was produced in 1891, and saved for the Ohio exhibit.

J. B. Wilhelm, of Saint Stephen, donated a few pounds of comb honey—all he had when my call was made for honey. It was light colored, and the sections were well filled.

Louis Schumm, of Willshire, loaned the exhibit 32 pounds of dark comb honey in two-pound sections.

About 75 pounds of white comb honey was purchased, and, all together, made about 900 pounds for the exhibit.

F. J. M. Otto, of Sandusky, donated a few pounds of extracted honey, nicely candied in glass jars, that was produced in 1891.

In the front end of the case were three small pyramids of extracted honey, very light in color, and of fine quality. The center pyramid was 16 inches square at the base, 6 at the top, and about 3 feet high, surmounted by a glass globe about 5 inches in diameter, filled with white candied honey, and labeled, "This pyramid of honey is part of 24 pounds, produced and donated to this exhibit by Samuel H. Bolton, of McComb, Hancock Co., Ohio."

In the right-hand corner was a smaller pyramid, labeled, "This pryamid is part of 120 pounds produced and loaned to this exhibit by C. E. Boyer, Ainger, Williams Co., Ohio."

The pyramid in the left-hand corner was of the same size as the last, and labeled, "The honey in this pyramid is part of 80 pounds, donated to this exhibit by Vernon Burt, Mallet Creek, Medina Co., Ohio."

On these pyramids were several small wax rabbits, made from Mr. George's beautiful beeswax. About forty of these wax rabbits were squatting down in different parts of the exhibit, and called forth many exclamations of pleasure from sight-seers, and not a few had "cheek" enough to ask for "just one as a souvenir." Several buckeyes, known to many as "horse-chestnuts," were also on these pyramids; and Ohio being the Buckeye State, and the buckeye being a honey-producing tree, made their display very appropriate.

In the center of the case, at each of the four corners of the square in which the central pyramid before described stood, were four smaller pyramids of extracted honey, one of which was labeled, "The honey in this pyramid is

part of 60 pounds, produced and loaned to this exhibit by Milo George, Bowling Green, Wood Co., Ohio." He also loaned the exhibit some samples of sweet clover and raspberry honey in Muth bottles.

Another of these pyramids was labeled, "This pyramid of honey is part of 60 pounds, produced and loaned to this exhibit by Lewis W. Hershiser, Fayette, Fulton Co., Ohio." Lewis is about 15 years old, and his honey received an award.

In the rear end of the case were two small pyramids of extracted aster honey in pound, half-pound, and dime Muth honey bottles, all labeled with Mr. Muth's labels, and loaned to the exhibit by Chas. F. Muth, of Cincinnai, as was also another pyramid of honey in large Muth honey bottles, placed in the center of the front honey-stand; and another pyramid of about 100 pounds of beeswax, and some of Mr. Muth's honey with it, in the center of the rear honey-stand, all loaned by Mr. Muth for this exhibit.

A goodly number tasted of Mr. Muth's aster honey, and all were of the opinion that, if eaten on bread or warm biscuit, no butter would be needed, because the honey had such a buttery flavor. Mr. Muth had also on exhibition two bee-hives, two of his extractors, and two of his honey-knives. In the front end of the rear honey-stand was a good-sized pyramid of extracted honey, labeled, "This pyramid of honey is part of 100 pounds, loaned to this exhibit by Chas. W. Frank, of Fairlawn, Summit Co., Ohio." It was a mixture of buckwheat and heart's-ease. It was a beautiful dark amber color.

C. Lamson, of Pierpont, loaned the exhibit 24 pounds of very nice extracted golden-rod honey. Unlike the honey from some other sources, it did not candy.

In the back end of the case, between Mr. Muth's pyramids of honey, was a well-proportioned and nicely made monument of beeswax, about 30 inches high, made for and loaned to the exhibit by D. E. Jacobs, of Longley. When put in place last spring it was of good color; but standing where the morning sun shone upon it, it became somewhat bleached before the close of the Exposition.

Miss Maria L. Deming, of Watertown, near the southeast corner of the State, loaned the exhibit about 40 pounds of a dark-colored honey, that no one who tasted was able to tell what flowers it came from.

W. O. Titus, of Toledo, Lucas Co., loaned the exhibit about 50 pounds of beeswax, a portion of which was shown at the rear end of the front honey-stand.

In the back end of the rear, and at the front end of the front honey-stands, were two pyramids of extracted honey in two, one, and one-half pound and dime Muth honey bottles, which I loaned to the exhibit. Some of the honey had candied and been drained, so that it looked very much like sugar. Other portions were partially liquid and partially candied, much of it looking like very fine coral.

In the front end of the case were some honey-jumbles that were made in 1888, many barrels of which were sold in five and ten cent lots in the Apiarian Building at the Ohio Centennial at Columbus, O., in the autumn of 1888, by those in charge of A. I. Root's exhibit. I brought these from Columbus at the close of the Centennial. I gave several a taste of them at the World's Fair, and they said they were as fresh as new ones.

Nearly all of the comb honey was exhibited in crates with glass on both sides, holding but two sections each. The extracted, with the exception of that already mentioned as being in Muth bottles, was shown in a large variety of sizes and styles of glass jars, with either nickel or glass tops, and holding from one ounce to one gallon.

All of the shelves on which the display was made, and the pyramids built up with, were of glass.

For a few weeks I had a strong colony of Italian bees on exhibition in a nice glass hive. A colony of bees or a nucleus with a queen will attract more attention than any or all other things in an apiarian exhibit, especially if there is a bee-keeper to talk to visitors about them.

There were 16 exhibitors from Ohio in the apiarian department, and 8 awards were made on their exhibits, so far as heard from. I believe I have named them all, except that I received an award for "display of honey in marketable shape." A. B. MASON.

☞ I would advise all who receive queens that do not seem as prolific as they would desire, to rear queens from them immediately, or as soon as any of their brood is old enough for that purpose. In this way the buyer gets a fair return for his money, even if the queen bought does not prove to be all that he expected or desired.—*Doolittle.*

CONDUCTED BY
MRS. JENNIE ATCHLEY,
BEEVILLE, TEXAS.

A Touch of Northern Weather.

Whew! my! what a blizzard struck us this morning—Jan. 24th. The mercury fell from 70° down to 20° in a few hours. The gardens are ruined. Peaches on the trees as large as small marbles, and mulberry trees leaved out in full with a load of berries—all killed as dead as can be. We fear that orange trees are injured, as this is the coldest it has been since 1865, so say those that have been here since that time. Ice is an inch thick. Our hydrant froze tight, and we could not get any water until we warmed it up.

We were not expecting such a change, and were not prepared for it. We had just been planting out an orchard of oranges and figs the evening before the blizzard came, and all worked until night; and the next morning the contrast was so great that we could scarcely bear to go out-of-doors a minute. All the family concluded to huddle around the one fire-place, and the boys take it by turns to build fires. We were cooking on the fire-place, in sure-enough camp fashion, and we were going to eat only potatoes, milk, butter and honey, as it was too cold to go to the kitchen, when lo, and behold! just as we were gathering around the frugal meal, up came a bee-keeper from St. Louis—Mr. Sigel Brantigan. And weren't we in a fix?

Now, friends, I don't think it is fair to run right up on a person without warning. We would *always* be glad to receive a postal card from visitors when they expect to pay us a visit; but Mr. Brantigan enjoyed it all the same, as he was used to camp life in California. He will remain with us a week, and then pursue his journey. He has worked for the Leahy Mfg. Co., and other firms, and is looking up a situation for a bee-hive factory.

LATER.—It is now Jan. 25th, and it is warmer—up to 48° again, but everything has a sure-enough midwinter appearance, and the whole country is thrown back at least a month. But just in advance of the blizzard came a good rain, and with fine weather vegetation will soon revive; but it does look as though the North and South had swapped places. JENNIE ATCHLEY.

The Best Hive for the South.

As I have watched the bee-papers with eagerness to see an article on the hive most adapted to our part of the country, and I have failed to see any, I thought I would offer a few ideas in preference for the 10-frame Langstroth hive.

A few years ago, when I commenced bee-keeping, I selected this hive; not that I was competent to judge the superior qualities, but because it was the most common in use. Since that time I have thought a great deal about the hive most suited to our locality. While I differ from some of our best bee-keepers, or at least urge a slight difference at present, as I have not had a thorough practical experience with the 8-frame hive, yet I can hardly help being a little skeptical as to its being the best hive for our locality.

Situated as I am, where our honey-flow is so gradual, with but an occasional sudden heavy honey-flow, and in order to secure the best returns with our slow flow of nectar, we are compelled to keep the most powerful colonies that we can secure the season through, from the blooming of the elm in January and February, to the last blooming of the cotton and aster in November; consequently, to secure this larger working force, and hold it so long, it is necessary to have a larger brood-nest, either by a large single story, or tiering-up smaller ones, which means too much unnecessary work, for about nine frames are as much as a good queen can support, and eight frames for an average one.

"Well, why not use the 8-frame hive?" says Bro. Root and others who support the 8-frame hive. Not wishing to wage war with Bro. R. nor any one else, but to give my ideas of the hive best suited to us, I will say that our pasturage yields a great deal of pollen, and in order to have storage room for it we see the necessity for the extra frame or two; and the extra frames give more room for bees in the nest, which tends to keep down the swarming fever. This in itself is a considerable item.

In order to satisfy myself in regard

to the hive, I purchased several small hives last season, but it being a very sorry season, the results proved very unsatisfactory. I expect to test them more thoroughly the coming season, and will report the result.

Now, fellow bee-keepers, I would like to hear from some of you on this subject. I mean you in the South who have pasturage similar to ours.

Deport, Tex. W. H. WHITE.

Something New Discovered.

I have proved to my own satisfaction that young queens do not lay drone-eggs in worker-cells at first, and then turn out and lay O. K. Neither do I believe that all old queens lay drones in worker-cells, as some claim. I have an old breeder that stopped laying altogether last fall, and I kept her up (or her colony) by giving brood from black queens. Well, after the bees hatched out and new pollen began coming in, I noticed eggs in two combs. Later on I discovered the brood was *all* drone. I murmured out, "You have laid yourself out, Old Lady, and now lay all drones."

But when the drones began to hatch they were *all* black, so I "caught on" that laying workers did the work with the old queen with them, as her drones were as yellow as gold, and I knew that would not do. So here is a plain case where laying workers are present while they yet have a queen, but the queen was not laying any at all. But if I had not taken particular notice of this, I might have concluded the old breeder laid all drones in worker-cells. But the truth is, she did not lay any at all, and the workers, some of them, laid the eggs.

Now, when we rear a queen in a hive that has been queenless some time, or introduce one just as the conditions come right for the young queens to begin to lay, the laying workers also become ready and go to work with the queen, and after a time said workers die or disappear, and the queen goes on with her duty, and all worker-eggs in worker-cells is the result.

But while the laying workers were with her, the brood was partly drones in worker-cells. Now, this is not always the case, but is often so. I say that if a queen begins to lay drones in worker-cells, it is a sure sign of weakness, and she *never* quits it, and soon dies. But, on the other hand, when the laying workers cease, the queen gets full control, and no drones in worker-cells. Do you see the point? I know this to be true, as I have tested it thoroughly before mentioning it in print.

Now, I know that some will criticise me on the above, but when you test this matter as I have, you will decide with me.

I am going to test several other things that I have "caught on to," then I will give you all the benefit of it, and I want you to get me down in your scrapbook, that a young queen that lays drone-eggs in worker-cells to any extent *never* gets over it, or quits it. She's "no-good."

JENNIE ATCHLEY.

Another Way to Catch Skunks.

MRS. ATCHLEY:—I notice that you want a way to catch a skunk, so here is the best:

Take a barrel, and make fast a piece of comb on the side well down to the bottom. Now put something under the front edge so as to raise the barrel about half way up, and put a wide piece of board in front so that the skunk can get in, and when he goes to get the bait he turns the barrel up.

You want to set the barrel so the comb will be on the upper side of the barrel when set.

We have three feet of snow here now —Jan. 8th. Bees are put in about Nov. 15th, and put out about April 1st. They consume about 9 to 12 pounds while in.

Fredericton, N. B. J. MCMANUS.

Honey Used in Producing Bees.

Query 909.—How much honey is consumed in producing a given number or amount (say one pound) of bees?—Ohio.

I don't know.—E. FRANCE.

I don't know.—C. C. MILLER.

I do not know.—J. A. GREEN.

I don't know.—H. D. CUTTING.

I don't know.—J. M. HAMBAUGH.

I don't know.—WILL M. BARNUM.

I don't know.—MRS. J. N. HEATER.

I have no means of knowing.—EUGENE SECOR.

I have no means of knowing.—M. MAHIN.

I wish I knew, but I do not.—R. L. TAYLOR.

I should judge about 20 pounds.—G. L. TINKER.

That is closer than I am able to figure. —JAS. A. STONE.

I cannot tell, having never tested it.—MRS. L. HARRISON.

Were I to answer, it would be a guess, so I quote, "I don't know."—A. J. COOK.

Not having experimented "on this line," I will say "I don't know."—C. H. DIBBERN.

I do not know, and if I did know, I do not know what benefit it would be to know.—EMERSON T. ABBOTT.

A good question—and it is a question, too. I wish I had time to write an article on that subject.—J. H. LARRABEE.

We would like to know it; honey is not the only food used—nursing bees want pollen and water also.—DADANT & SON.

Who can tell? I can't, for one, and doubt if any one can. What benefit would it be to learn the facts, anyhow? —J. E. POND.

This question could only be answered by "guess-work;" not even an approximate answer could be given, because there are too many "depends."—J. P. H. BROWN.

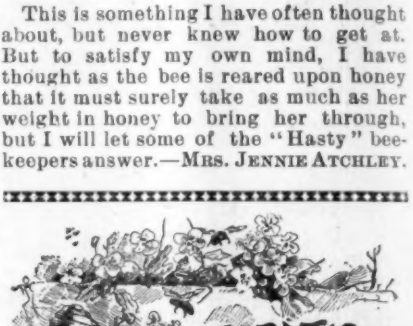
It would be hard telling. It is estimated that it costs 60 pounds of honey to carry a colony of bees through the year, but considerable of this is consumed when there is no brood in the hive.—G. M. DOOLITTLE.

I *guess* it takes over a pound of honey and bee-bread together to make a pound of bees. I have thought it took a sheet or comb filled with honey and bee-bread to fill the same with brood. In cool weather, more honey is used than in warm.—P. H. ELWOOD.

I have never experimented in this line to determine the exact amount, but I know from a long experience that where a large amount of brood is being reared in early spring, before honey can be gathered, that the hives decrease in weight very fast.—S. I. FREEBORN.

There is no way to find out a matter of that kind. Some person, or persons, have made some effort to approximate, by feeding bees artificially. But like the attempt to find out how much honey it takes to produce a pound of beeswax by feeding, no reliable conclusion has been reached. At best, it is an unsatisfactory guess, and is likely to stay in the middle of a doubtful bad fix.—G. W. DEMAREE.

This is something I have often thought about, but never knew how to get at. But to satisfy my own mind, I have thought as the bee is reared upon honey that it must surely take as much as her weight in honey to bring her through, but I will let some of the "Hasty" bee-keepers answer.—MRS. JENNIE ATCHLEY.



Ripening Honey—Where to Keep It.

Written for the American Bee Journal

BY C. W. DAYTON.

On page 663 of the BEE JOURNAL for 1893, Mr. Geo. F. Robbins says that on pages 470 and 496, in my article, I "miss the mark" as to the proper care of honey, and that I "seem to think that honey should be left on, or in the hive, in order to become best ripened and flavored.....In the case of the honey that soured, the error was not in extracting when one-third sealed, but in the after treatment."

By some study of the above-mentioned articles, it will be seen that Mr. Robbins favors an artificial plan of ripening, while our intention was to wait until the honey was entirely ripe before extracting, thus making the bees do all the labor. But the trouble was intimated in my first article—*we did not wait long enough.* That is where they all "miss the mark."

That one-half of the honey was ripe enough to remain sweet when sealed up in screw-cap cans, shows that our method was good where it was well followed. The artificial way of ripening is good, but if we had been ripening all the honey artificially in pans or stone-jars, we might *then* have extracted when

it was too "green." Then, again, we might have been a little short of jars, and emptied it out too soon in order to receive a new filling. Some who ripen honey thus artifically adopt some special length of time for its exposure, and there comes some weather when evaporation is slow, but unnoticed by the senses. It turns a little cooler, the honey appears to be as thick as some that was canned up on a hot day previously, and again the mark is missed.

The "spec" of difference lies in whether we shall allow the bees to do their work alone, or we are to turn in and assist them. One is a question of hives, combs and bees; the other, buildings, vessels, and time of the apiarist. We may have plenty of bees, combs, etc., and still not be able to forego the expense of constructing buildings or the purchase of ripening facilities. In Illinois a building would be absolutely necessary, and in California an equally expensive platform in order to keep the honey from ants. In Iowa, my former location, ripening-pans might be used without danger. Here, in fifteen minutes, ants will find it, and by an hour's time, they will move into it by platoons. In fact, the California apiarist's mind is pretty thoroughly taken up with ants, spiders, gnats, dust, weeds, brush, rocks, stings, melting, heat and dilapidated hives and frames, and freight bills, and if his honey-house is as good as a cloth tent without a floor, he feels blessed.

When the Eastern bee-man comes here and looks at an apiary he invariably says, "How soon I would construct hives of planed lumber and paint them, build a honey-house, grub out the brush, and introduce order." One or two trips in a rocky canyon shakes this superfluous energy out of him. He may jostle along a bit, as a second effort, but he soon settles down into the smoothly worn rut pursued by the majority. He avoids everything but the absolutely necessaries, and leaves the labor as much to the bees as possible, and transfers the honey from the combs into the receptacles in which it is to remain by the easiest and quickest possible plan.

If it is extracted before sealed it is to save labor of uncapping. This country is far ahead of the East for ripening honey artificially—being rainless and hot all through the summer season. Notwithstanding this, I saw, the past season, in a single apiary where evaporating facilities were in use, several tons of honey which had the tart of unripeness. It was at the apiary, in the shade of a tree. It needed a little hauling in the sun to make it foam. More of the same sort was added to the pile; sealed, boxed, stamped, ready for shipment. Called, "extra fine."

Some bee-keepers get so well up in the art of extracting before sealing, that they begin to shirk the ripening in a corresponding measure. The practice of one seems to lead to the neglect of the other, and while they are so in haste after quantity at the expense of quality, never looking back at their wake of dissatisfied consumers, we almost wonder that they do not contrive some plan to snatch the nectar from the blossoms before the bees.

Mr. Robbins quotes rightly in that I "think comb honey should remain on the hives *long enough* to become travel-stained." That is not expressing any particular liking for the stain. I believe travel-stain is nothing less than propolis and dirt. For combs to become travel-stained requires a considerable lapse of time. During this time it is covered with bees, which keeps it warm and dry, and in a ripening condition. The honey departs from a raw, watery consistency. How much stain there is upon it will depend upon how far it is situated from the entrance. The nearer the entrance the more stain, the same as a carpet in a room is worn most nearest the door, yet it may be just as warm and pleasant back in some corner where feet seldom go. So with combs of honey, which may be situated as to receive little travel-stain, and still receive a benefit from the warmth of the bees. The greatest warmth is high up in the hive—the most travel-stain, low down.

In the case of the beef which was hung up until it began to smell before being ready to eat, there is misapplication. The meat was simply spoiled. If we wish to spoil honey, hang it in the damp cellar. For a long time after the honey harvest the bees continue to occupy and protect the whole hive space, which may include two supers of sections or an extracting story. Pull the lid off the top, and we find bees at our fingers' ends.

About the first of September, in Illinois and Iowa, or Colorado, the brood diminishes, the bees gather into clusters lower in the hives, and on cool mornings we find the upper combs being deserted. Honey should be removed before the bees desert it, as outside the clusters the condition is the same as in the cellar. The clusters of bees are warm. The surrounding air and combs are cold, and the condensation of moisture and sweating is the result. The honey upon which

the moisture rests will be spoiled, and the wood mildewed.

In Iowa I used to pack the bees for winter before this time came, and the extra combs of honey were stored in the honey-room, and as I scraped the honey down to the septum with a pocket-knife all through the winter, I often wished my marketable honey tasted like that.

In overhauling the hives in early spring, and where there were 10 or 12 combs in the hive with the bees clustered on three or four, on tasting the honey in the comb far from the bees, it was watery and rancid, or flavorless. Following up each comb successively, they were found alike until that within the cluster was reached, and found to still retain its original rich, oily flavor.

In colonies afflicted with diarrhea it was watery, and rancid even inside the cluster, so we are led up pretty close to the cause of the disease.

The keeping of honey in the condition afforded by the bees would be compared to hanging the meat in the smoke-house with a smoldering cob-fire underneath. There is a need of judgment throughout the affair, as it may be as easily overdone as underdone, Colorado and California not excepted.

Pasadena, Calif.

Getting Bees to Build Straight Combs.

Written for the American Bee Journal

BY C. E. MEAD.

In reply to F. M. L., of Langlois, Oreg., who asked a question on page 716 of the AMERICAN BEE JOURNAL for 1893, I would say that I have had to fix hives for others, and a very little for myself, that were in the same condition his were. The first thing necessary to have the bees build the combs accurately in the frames, is to have them spaced accurately from center to center—not over 1⅜ inches, or less than 1⅜. If the queen is a young one, 1⅜ will do. If the frames are too far apart, or too near together, the bees cannot follow the frames, and are compelled to build crosswise. As the combs would be too thick or too thin to be utilized for brood-combs, it is best to use a guide of foundation or wax.

To put on a wax guide, take two pieces of board the exact length of the inside of the brood-frame, and 1/16 inch less in thickness than ⅛ the width of the top-bar, and 2⅜ inches wide. Nail the edges of these together so they will lap ⅜ inch, which will leave 2 inches outside of the lap. Now soak them in warm water. Have some melted beeswax ready, wipe all the adhering water from the sticks, place these boards inside of the frame—one under, and the other against the top-bar; hold the 2-inch part parallel with the end-bars, one end of it slightly raised. Now pour a spoonful of wax on the board at the highest end, and have it deepest next to the top-bar. It will stick to the dry top-bar, and not to the wet form. It will make an edge of wax from ⅝ to 1⅛ inches wide. A few trials will enable you to do this as fast as you can dip the wax. You can make three of these, and keep two soaking if you have much of it to do. Any adhering wax must be scraped off. Foundation guides fastened to the top-bars answer as well, and no better.

Now place the frames in the hive, and space them accurately. Take two thin pieces of wood the exact length of the inside of the hive crosswise of the frames, and put a little glue on each frame, near the ends and straight across. Now lay on the sticks, and let the glue harden. Turn the hive over and paste or glue a strip of manilla paper on the bottom of the frames, and on the edges of the hive. Now your frames will stay in position after your bees are hived. See that the hive is perfectly level crosswise of the frames, and raise the back end the width of a brick, and if your queen is any good, your combs will be all right.

Drum up as directed on page 716 of the BEE JOURNAL for Dec. 7, 1893, and place them on the stand where the old hive stood. Smoke the bees from the sides of the hive, and cut the combs off with a long knife or saw. Slide a board over the top of the hive. Invert the hive, and lift it off of the frames and combs. Take it where the bees will not try to rob, and transfer according to directions in any good book on bees.

Brush any bees that are in the old hive in with the drummed-up bees. Scrape all wax and propolis off the inside of the old hive, and as fast as the combs are transferred put them into the old hive. Any bees that are among the combs and in the way may be brushed down into the transferred combs.

Keep a sharp lookout for the queen at all times. If found in the combs, put her with the drummed bees. After the combs are all transferred, place on the old stand and hive the drummed bees in the transferred combs. Do not transfer until the bees are strong enough to keep

the brood from chilling, and honey enough is coming in so there is no danger from robbing.

If the bees do not fill the hive, put in a division-board to confine the bees and heat to the brood-combs.

Move the other hives away from the one to be transferred. Italian bees or hybrids will take care of moths.

Chicago, Ills.

Best Foundation for Use in Sections.

Results of Experiments at the Michigan Apiary.

BY R. L. TAYLOR, APIARIST.

Ever since I first began to use it extensively, now fifteen years ago, comb foundation has been to me a matter of much interest and thought. I have often noticed that much interest is taken in the best methods of extracting the wax from old combs, and in machines that will make the thinnest foundation, but that little care has been exercised with regard to the best methods of manipulating wax to be used in making foundation so as to secure the readiest acceptance and the most thorough manipulation on the part of the bees; and that to the interrogatory—Does the thinness of foundation bear any relation to the thinness of the septum of the comb made from it?—I have heard hardly an inquiring answer; nevertheless I have all along felt a great interest on these points which experiments conducted in a small way had served greatly to increase, so it was but natural that when I found myself in a position where I could afford to do it somewhat extensively, I became interested in the formation of plans calculated to bring out, if possible, the truth on these and kindred points.

The plan adopted was to procure a conveniently large variety of foundations made for use in sections by procuring from several makers samples of each kind made, and comparing them by putting them into cases alternately with no separators, and giving them as thus arranged to the bees to work out and fill. It was thought that results might be obtained in two ways: First, it seemed reasonable to suppose that those sorts that were most acceptable to the bees would be drawn out first and most rapidly, and consequently when capped would contain the most honey, and that the preference of the bees could easily be detected by weighing the finished sections; secondly, by measuring the thickness of the bases of the cells of the comb produced, it seemed clear that if any sort were to any considerable extent better adapted to its purpose than the others, that fact would be clearly revealed.

For the purposes of the latter case I have so far been unable to see that the plan pursued could have been improved, but in the former case there is some degree of disappointment, from the fact that it gradually became evident that the plan pursued was defective so far as the purpose sought was concerned in at least two particulars, viz., in attempting to compare too many kinds at once in one and the same case, for it is evident if three sections containing foundation equally good were placed side by side, and the trio was flanked on either side by sections with inferior foundation, the two exterior ones of the trio would derive an advantage on the side of the inferior ones which the central one containing equally good foundation would be deprived of, and then sections of the usual width, seven to the foot, were employed in the experiment which it became evident in the progress of the experiment were too wide to yield to the full the natural effect of difference in the foundation, for I saw in several cases that the bees worked out some kinds of foundation sooner and more rapidly than others at first, but when these reached about the thickness required for brood they were delayed to some extent, and more force was put on the kinds that lagged, to bring them up, so that in this way the results sought which would perhaps be abundantly revealed by the use of thinner sections were, to a large extent, concealed.

The remedy which should be applied in further experiments of this character seems to me to be evident; each sort of foundation which it is deemed desirable to compare with others, should be compared with each of them separately, and the sections should be so thin that the usual thickness of comb desired by the bees would a little more than fill the section's proportionate amount of space.

I have been asked whether in publishing the results of these experiments I should give the names of the manufacturers of the different foundations used. The object of the experiments is to obtain for the use of bee-keepers generally as much new and valuable knowledge with regard to their tools and business as possible, and it is evident that in the particular experiments of which I now write the value of the results depends almost entirely upon a knowledge of the

names of the makers of the several varieties of foundation used, and I believe I should be doing injustice to any maker of foundation to suppose that he desired his name withheld, for are we not bound to believe that each one desires and is endeavoring to make, foundation that shall yield the greatest possible profit to the user, and that if he fails in any respect he desires to know it, that he may apply the remedy? So I think I cannot do otherwise than give all the knowledge I possess in the matter. Not that I think there is anything so far that can very injuriously affect any manufacturer, but I hope there is what may prove an entering wedge to make a way of escape from the domain of theory, and an entrance to the domain of fact in this matter of foundation, and lead to an effort to make it to please the mandibles of the bee instead of the eye of the purchaser. There may be something to learn yet about the manipulation of wax as well as about the peculiarities of foundation machines.

In the experiments now under consideration eight varieties of foundation were employed, of which the sources and other distinguishing peculiarities are sufficiently indicated in the following table:

A Dadant's Thin, Sheets 12x4 in., 15 to ½ lb.—10 ft. to the lb.

B Dadant's Extra Thin, Sheets 12x4., 18 to ½ lb.—12 ft. to the lb.

C Van Deusen's Flat Bottom [procured of A. I. Root], Sheets 16½x3¾ in., 16 to ½ lb.—13¾ feet to the lb.

D Root's Thin, Sheets 16½x3¾ in., 12 to ½ lb.—10.31 ft. to the lb.

E Root's Extra Thin, Sheets 16½x3¾ in., 14 to ½ lb.—12.03 ft. to the lb.

F Foundation made on Given Press, Sheets 15x3 13-16 in., 12¾ to ½ lb.—10.09 ft. to the lb.

G Foundation made on Given Press, Sheets 15x3 13-16 in., 12 to ½ lb.—9.37 ft. to the lb.

H Foundation three years old, made on Given Press, about 9 feet to the pound.

Each variety of the foundation was designated by a letter of the alphabet as indicated, and were used for marking the sections to indicate the sort of foundation each contained, and also as labels to distinguish the septa of combs made from the foundation when they (the septa) were cut out and sent away for the measurements hereinafter explained.

The foundation was cut to the same size, 3¾x3¾ inches, and after being fastened in sections were placed in Heddon cases alternately, as already stated, so that each kind appeared seven times in each pair of cases. In all, eight cases were thus prepared, but misfortune attended them in other ways than indicated in the foregoing; some were not well filled, two contained more bee-bread than I ever found, I think, in any other two cases, and there was only one pair that was filled to my entire satisfaction, so that the material that could be fairly used for comparison by weighing was comparatively meagre, and consisted of five of each sort from the two cases that were well filled, four of each from two other cases, and three of each from still another pair. The cases were selected with a view to their giving an opportunity of selecting well filled sections of each sort from the same relative positions in the cases, and the sections compared were so selected. The following figures give the results in pounds and ounces:

	A	B	C	D	E	F	G	H
5 each sort—	4-13.5	4-11.5	4-13.5	5	4-15	4-15.5	4-14.5	4-15
4 " " —	3-13.5	3-12.5	3-13.5	3-15	3-15	4	3-15.5	3-15.5
3 " " —	2-14	2-14.5	2-14.5	2-15.5	2-15	3-00.5	2-15.5	2-15.5
Total.....	11-9	11-6.5	11-11.5	11-14.5	11-13	12	11-13.5	11-14

This indicates pretty clearly what I have been aiming at, as well as the course with the modifications already suggested, which I think should be pursued in making further investigations in this line. Of course it would be rash to claim any very definite result from the experiment so far, but the totals here given will be found very interesting matter for comparison with the weights and measurements given further on, which were procured with the expectation of evolving something that would assist in the solution of the general problem under consideration.

I suppose it would not be denied by any one, that so far as the amount of wax contained in comb honey is concerned, we must take the amount of wax contained in natural comb when used as the receptacle of honey as the standard of perfection. How near does comb produced from foundation prepared for use in sections approach that standard? And do combs produced from all sorts of such foundation approach equally near to that standard?

It was with the purpose of making a beginning, if possible, at answering these and similar questions that I undertook the experiment with section foundation.

It first occurred to me that samples of honey made from natural comb might be submitted separately to several careful individuals, experienced in the production of honey, for comparative tests, with the hope that the reports of such tests would give the light sought. With further thought, that hope gradually grew dimmer, until the committee of the North American Bee-Keepers' convention to whom the septa cut from comb made from the several foundations were submitted for comparison with a view to a report, gave the matter up in despair, when it went out altogether.

(Concluded next week.)

The Michigan State Convention.

Reported for the "American Bee Journal"

BY W. Z. HUTCHINSON.

(Continued from page 152.)

Next came an essay by Mr. James Heddon, entitled

The Future of Bee-Keeping.

I wish you all a happy New Year, and being well aware that financial success in any honorable calling does a full share in promoting happiness, I will endeavor to do what little I can to add brilliancy to the torch of apicultural learning. As in the past, I shall endeavor to state what I *believe* to be the truth, and that, too, with gloves off, wholly regardless of how such conceived truths may affect interest or reputation, letting the chips fall where they may.

I hope you do not imagine that I can foretell the future of our loved pursuit, and as we all know such can only be guessed at, I shall endeavor to present only such facts as I think materially aid us all in *guessing* what the future of our pursuit is to be, guiding us in trimming our sails accordingly.

I believe that intelligent bee-keepers have finally abandoned the theory that our product, in any form, may become a staple. As very much of the future of bee-keeping hinges upon this point, some 15 years ago some of our friends who had various apicultural commodities for sale (none of which were honey), seemingly inveigled themselves into the pleasant belief that our product would very soon become a staple commodity, and apropos to the foregoing endeavored to instill the same erroneous opinion into the minds of other bee-keepers.

I believe it to be fatal to success in any business, to harbor accommodation theories in the place of cold, solid facts. I want to know the truth about commercial things, at least, and then if those truths do not "set me free," they certainly will have a strong tendency to set me on my feet. The opinion of a man who believes, or thinks he believes, something because he *wants* to, is of no value whatever.

But I presume I am knocking at a man of straw, for I doubt if any of you fancy that honey is to become a staple. With this belief in view, you will see the necessity of maintaining the character of our product as a luxury—a fancy article. To this end we should take the utmost pains in grading our honey, keeping the different varieties separate, and with all of them we should see to it that the honey is thoroughly ripened before removed from the hive, and if extracted, carefully strained from all sediment, and put up in attractive packages. If in the comb, there is still greater need of attractiveness in appearance, as well as taste. The sections should be neat and clean, the honey completely capped, put up in handsome little crates wholly free from leakage, and shipped in such way as to remain so, clear to the end of the deal, or into the hands of the consumer.

Now lastly, but not leastly, in fact *mostly*, we as bee-keepers should do all in our power to maintain the reputation of our fancy product in all that which passeth show. I now have reference to that nonsensical suspicion abroad among consumers, that our product is adulterated. Many consumers did suppose that honey from the hands of packers occupying secluded basements in large cities, was adulterated. United States Chemist Wiley told them so in the various newspapers of the country, and they believed it after they had read what Prof. Wiley had said, and that hurt honey-producers materially. Admitting that Mr. Wiley's pleasantries were more or less true, the

damage was the same, for it is a commercial condition, and not a moral theory which I have been invited to discuss.

In these pleasantries the Professor demonstrated to us how much he could hurt our business, and how little he knew, after making his chemical tests, whether honey was adulterated or not, as is proven by reports of honey put up by Chas. F. Muth. Mr. Wiley earned and received the bitter opprobrium of American bee-keepers, and yet it has been left for certain bee-keepers and supply dealers to extend this nonsensical cry to an extent which, if not stopped immediately, will damage us to an amount which will almost exonerate Mr. Wiley in his pleasantries.

The Bee-Keepers' Union was organized for defense of bee-keepers, and it did its work nobly, but last year a few believed it to be best that the Union should attack its own members, with the cry of "adulteration." It would seem to me that any bee-keeper with any foresight, could readily perceive that in no case could the Union, nor any other organization, or any person do ought but make trouble and expense, at the same time damaging the interest of honey-producers to the exact extent of their work. I believe the above would be true even if it were a fact that honey-producers were adulterating honey. If it were a fact, it would be one which we couldn't afford to have heralded to the public, as would result from public prosecution. If my neighbor bee-keeper is adulterating honey, he will very likely injure himself far more than me, for nothing does so much good, nor aids him so much in his business, as to always place upon the market a *first-class* article. The converse of this proposition is true. Now if my neighbor's adulterated article doesn't injure *his* trade, it will not injure mine, only to the extent that his work increases the supply, and I haven't heard any bee-keeper, whether he belonged to the Union or uot, endeavoring to prevent increase of supply, by objecting to the encouragement of persons to go into the "bee-business."

I am not afraid of my pursuit being injured by the practice of any individual member, said practice damaging the individual first and most. But waiving this part of the argument, all the damage that has been claimed, or that can be conceived, is nothing as compared to that produced by inflating the mind of consumers with the idea that our product is generally adulterated. Mr. Wiley advertised that idea very thoroughly, as related to that honey which goes to the consumer through the hands of the city dealer, and that which is *in the comb* was not excepted. While we received immense damage from Mr. Wiley's writings, that professional gentleman had the kindness to leave one avenue uncontaminated, viz.: that channel passing directly from producer to consumer. It has been left to the envy, jealousy and hatred of supply dealers and their followers, to announce to the honey-consuming world that the label of "the producer is no guarantee of purity." This they have done by inciting arrests in isolated places, by writing letters to private individuals who would spread false reports, by writing articles in bee-papers which are being eagerly copied in newspapers, and last, by publicly changing the Constitution of the Bee-Keepers' Union so that it may have the right to attempt what in no case could it have the power to accomplish, and which can and does end in nothing but casting suspicion upon our product. All the bee-keepers' unions this side of fairy-land couldn't stop one little honey-producer from adulterating all the honey he might be fool enough to attempt to adulterate in 300 years.

Manager Newman, an intelligent man with lots of worldly knowledge, correctly declares that the present state of the art of chemistry is not sufficient proof of adulteration, and that the laws in different States, where there are any laws at all, are so varied that the Union finds it impossible to cope with the supposed practice; and I believe he might have added that in his good, sound judgment, the best thing the Union can do, as it can do no good, is to do no harm by spending its time and money, and blazing to consumers that everybody—producers and all—are adulterating our product.

Mr. Newman suggested that the Union might succeed if we could have a "national" law, but he must have forgotten what many others have done, in speaking of this same subject, as applied to various articles of food, that this government is the United States of America; that they are united for certain purposes, and that as long as the unity, that is, the general government, doesn't punish its citizens for the crimes of murder and stealing, it will not be very apt to pay any attention to the adulteration of honey, as long as it doesn't receive a national revenue from that commodity.

I have spoken upon this subject thus at length, because I believe it to be, above all others, the one just now con-

fronting the future success of bee-keeping.

One more point, and I will leave all the rest to my able peers. With ours, like all other pursuits, the price of our product will be a medium between the maximum and minimum cost of production with a reasonable margin added. It follows that whoever produces honey at maximum cost will fail, while those who produce at an average and minimum cost will succeed. With our pursuit, as with all others, whether producing or manufacturing, nothing is so helpful as the best implements and fixtures—those which will turn out the best products in the shortest time, and with the least labor. America is noted for possessing these, and more noted for inventing them for others. The nations of the earth do much copying from us; one of the causes of our superiority in this line, is the extra inducement held out by our beneficent patent system. Every bee-keeper who opposes that system, as connected with our pursuit, is a malefactor, whether he knows it or not.

The bee-keeper of the future must employ such implements, fixtures and methods as will enable him to secure his product with much less labor than formerly, or he will fall by the wayside in the race.

This subject is too broad to admit of going into details in this already long essay. I look for very much in this line to come from the experimental work of our most valued contemporary, Hon. R. L. Taylor.

I regret that I cannot be with you as I had intended, and wish you all prosperity in our chosen pursuit.

JAMES HEDDON.

Wm. Anderson—I do not expect that honey will ever become the staple that butter is, but by producing it more cheaply it will become less of a luxury. I will admit that in some cases too much has been said about adulteration, but there is no doubt that it exists, and it does not seem to me that we as bee-keepers can afford to ignore it.

Chas. Koeppen—I think that something might be done by having a detective to trace out cases of adulteration, secure proof, and place it before the guilty parties, and threaten to prosecute unless the practice is stopped. I would have the Union do this; it could be done quietly.

W. Z. Hutchinson—Have their been no calls for the Union to prosecute?

Pres. Taylor—Yes, there have been complaints, but no prosecutions, because there has been a lack of proof.

Next came an essay by Mr. R. F. Holtermann, editor of the *Canadian Bee Journal*, upon

Preparing the Apiary for Winter.

There is no question in bee-keeping at the present day which can be discussed before bee-geepers generally with as great profit as "Preparing the Apiary for Winter." Many of us are satisfied with our methods, simply because we are not educated to something better. We winter bees and bring out the hive with *life* in it, and are satisfied. If the hairs of the bees would only turn grey with age, they would tell a different story; however, there is another index, and that is to compare our honey crops from year to year with that of our neighbor—herein the grey hairs are manifest; better preparation for winter, and better wintering would very much increase the net profits to be derived from bee-keeping.

Preparation for winter begins very early in the season. Our aim should be to have strong colonies for winter, with bees in the full vigor of life; that is, bees not old and yet fully matured. The queen should also be perfect, and in the full vigor of life, and plenty of wholesome stores for winter. The *careful* and *successful* bee-keeper must, after he has increased his colonies sufficiently, have more bees than he cares to handle the following spring. It then becomes a question of wintering and selling, or destroying the bees. At the present price of bees in the spring, there is no money in selling bees at that season. The hives, the honey they consume, the room they occupy in winter, and the work connected therewith, to say nothing about percentage of mortality, make it undesirable (unless in exceptional cases) to winter bees for the purpose of sale.

There is another important advantage to be derived from destroying a number of colonies each fall—we are able to select the very best for wintering, and by such a selection much can be accomplished towards successful wintering. Other things being equal, colonies hived in supers will not be as strong as those hived on full sheets of foundation or combs; these hives are also likely to contain the old queen.

In selecting the colonies which are to be wintered, we should look as much as possible for young queens from colonies which have shown desirable character-

istics, more marked queens of desirable strains and strong colonies.

Sufficient honey should be kept back to give each colony natural stores, unless the bee-keeper is in an exceptional locality, and natural stores are injurious—of this latter I have no experience. If combs of honey have been kept, they can readily be given as soon as the brood hatches from the brood-chamber; if not, I take one of the strongest colonies I intend to destroy, place upon it two upper stories, and feed it a syrup prepared from granulated sugar, pure water, and a little honey; and feed this as rapidly as possible. No better method can be derived than to feed from beneath the brood-chamber.

Bees when not gathering settle down to a quiet condition, during which there is very little wear and tear of the system. This quiescent condition should not be broken in any way avoidable. By making the bees you intend to destroy do the storing, there is no loss in this way. Next there will be less waste of stores and vitality *all around*. Even should you have no colonies to destroy, by disturbing a few instead of many, it is extremely likely much will be gained.

Again, by means of such feeding winter stores are sealed, and in much better condition. The best method of feeding combs of honey, is to prepare the stores in a hive, place this under the old brood-chamber, and shake the bees down. A few moments, and the work is done.

I am no advocate of uniting bees at any time unless it be just before the honey-flow. After having left the practice of contracting the brood-chamber according to the strength of the colony, I return to it and advocate that bees should fairly well fill their hive. I would contract by means of a close division-board.

I am (for cellar-wintering) an advocate of sealed covers, with packing above, to keep the moisture from condensing on the surface of the quilt, and raising the rear of the hive from the bottom-board. R. F. HOLTERMANN.

The chief discussion following this essay was whether we could afford to winter bees to sell. One man could buy bees at from $2.00 to $4.00 per colony in the spring, and at such prices it would not pay to rear bees to sell if the risk of wintering must be taken. Another reported that a Mr. Robertson once made a specialty of rearing bees for sale. He secured as much as $5.00 per colony in the spring, and wintered his bees almost invariably without loss. He sometimes had as many as 300 or 400 colonies to sell in the spring, and often asserted that there was more profit in rearing bees for sale than in producing honey.

The next meeting is to be held in Detroit, and the following officers were elected:

President—M. H. Hunt, of Bell Branch.

Vice-President — H. D. Cutting, of Tecumseh.

Secretary—W. Z. Hutchinson, of Flint.

Treasurer—Wm. Anderson, of Imlay City.

The committee appointed to draft a series of resolutions in regard to experimental work at the station, reported as follows:

WHEREAS, The State Board of Agriculture during the past year made provision for the establishment of a sub-station to be devoted to experiments in the interest of apiculture, and placed the same under the supervision of Hon. R. L. Taylor, of Lapeer; and

WHEREAS, Though less than a year has elapsed, giving opportunity for scarcely more than such experiments as may be properly conducted during the summer season, yet the results of the experiments made at the station during that time, especially those relating to self-hivers, non-swarmers, comb foundation, etc., which have been so practically set forth by the State apiarist, have inspired those most familiar with the business and necessities of apiculture with confidence in the apiarist, Mr. Taylor, as well as in the value and importance of the season's work, so far as known; therefore,

Resolved, That it is the unanimous sense of the Michigan State Bee-Keepers' Association—

1st. That the apicultural work of the Experiment Station ought to be continued, both for the verification of results hitherto attained, as well as for the solution of other practical problems, and the State Board of Agriculture is hereby respectfully requested to continue to sustain the same.

2nd. That Mr. Taylor should be continued in charge of the work.

3rd. That the subjects for experiment be determined by the apiarist on consultation with the Executive Board of the Michigan State Bee-Keepers' Association; and

WHEREAS, It is desirable that a Bulletin containing the results of the work already completed, and to be soon completed, should be issued as early as possible in the coming spring for the use of bee-keepers during the coming season—which would not perhaps be practicable if the work is not to be continued another year—as other work to be completed at the end of the year would hardly be sufficient for another Bulletin; therefore,

Resolved, That it is deemed desirable by the Michigan State Bee-Keepers' Association, that the Board of Agriculture take early action with reference to the con-

tinuance of the work, that the propriety of the preparation of an early Bulletin may be decided upon.

The above resolutions were unanimously endorsed by the convention.

The regular committee on resolutions reported as follows:

Resolved, That we the Michigan State Bee-Keepers' Association, in session assembled, hereby extend to Bro. W. Z. Hutchinson, the genial editor of the *Bee-Keepers' Review*, our most cordial thanks for his interest in behalf of the association—1st, in hospitably entertaining us at his home, and giving us an opportunity of sampling the fair nectar of the California orange blossoms; 2nd, in securing reduced hotel rates, and a comfortable hall in which to hold our sessions.

Resolved, That we extend our thanks to the Proprietor of the Dayton House, for his kind reduction in rates to our members.

Resolved, That we most heartily thank the civic authorities of the city of Flint, for the generous use of the Council Chambers.

H. WEBSTER,
M. MCWAIN,
WM. ANDERSON, } *Com.*

After the reading of these resolutions, the convention adjourned to meet at the call of the Executive Board.

W. Z. HUTCHINSON, *Sec.*

LANGSTROTH FUND.

[For years, bee-keepers have felt that they owed the Rev. L. L. Langstroth—the Father of American bee-culture—a debt that they can never very well pay, for his invention of the Movable-Frame Hive which so completely revolutionized bee-keeping throughout all the world. In order that his few remaining years may be made as happy and as comfortable as possible, we feel that we should undertake a plan by which those bee-keepers who consider it a privilege as well as a duty, might have an opportunity to contribute something toward a fund that should be gathered and forwarded to Father Langstroth as a slight token of their appreciation, and regard felt for him by bee-keepers everywhere. No amount above $1.00 is expected from any person at one time—but any sum, however large or small, we will of course receive and turn over to Father L. All receipts will be acknowledged here.—ED.]

List of Contributors.

Previously Reported	$83 35
H. Dupret, Montreal, Quebec	50
Dr. Jesse Oren, LaPorte City, Iowa	5 00
J. W. LeRoy, Rio, Wis.	1 00
Total	$89 85

Great Premium on page 165!

☞ **Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.**

Wintering Well.

Bees are wintering well in the cellar.

JOHN ROLLER.

Richwood, Wis., Jan. 20, 1894.

Bees in Fine Condition.

Bees are in fine condition. We have had no winter so far. J. D. GIVENS.

Lisbon, Tex., Jan. 20, 1894.

Paid to Move the Bees.

The past year has been the poorest for bees in this locality for at least 10 years—not one pound of basswood honey was gathered in this county (Wright). The bloom was entirely destroyed by the worms, and basswood being our main dependence for surplus, it looked really discouraging to the bee-keeper who is trying to earn at least a portion of his bread and butter by keeping bees. Well, seeing the situation, I loaded up three teams with all the bees we could haul, and moved them some 30 miles. We started on July 15th, traveled all night, and got the bees unloaded and relieved before sun up. The first day one colony on the scales gathered 18 pounds, so I got a fair yield of honey at last. F. B. JONES.

Howard Lake, Minn.

The Shallow-Hive Question.

I am going to experiment more carefully than ever before on wintering and other unsolved problems. My apiary will be an experimental station, whether a State one or not.

I s[illegible] the question of shallow hives is still receiving attention, also the best manner of making and using closed-end frames in full brood-chambers. The so-called Hoffman frames, I made long before I heard of Mr. Hoffman. It is the only way I ever used a closed-end frame, that I could tolerate in a full brood-chamber. These frames can be taken out easily, kill no bees, and are simple and cheap to make.

The shallow sectional hive is nearer perfection than anything I have yet seen, all things considered. I have used them largely

for more than 25 years, and can think of no improvement to-day. Each section of my hive has a bee-space on the top and the bottom, whether single or tiered two or ten high, without any strips on the bottom-boards, following boards, or other loose parts. The bees winter in these hives to perfection, and nothing will give such good results in combs or extracted honey, with so little work. For extracted, nothing is needed but plenty of hives.

Forestville, Minn. BARNETT TAYLOR.

Wintering Exceedingly Well.

The winter here still remains open and pleasant. A year ago at this time the mercury was below zero, and now it is from 50 to 60 degrees above. I have just examined my bees, and find that they have consumed less stores than usual, and are wintering exceedingly well. The only fear now is that brood-rearing will be under headway too soon, and that we will have a wet, cool spring. H. F. COLEMAN.

Sneedville, Tenn., Jan. 18, 1894.

Bee-Keeping in Washington.

On page 27, Mrs. L. Harrison speaks of bees having a "Merry Christmas" at Peoria, Ills. I can say that mine had a good flight Christmas, but have not been out any to speak of since. Bees from all appearances are doing nicely so far this winter. I am in hopes to get more through this winter than last (18 lost out of a total of 41).

My bees are in better condition, both as to quality and quantity of stores. I have also packed them better on top of the frames. Remember that I am in the northwest corner of the United States—49th parallel. We have a man here that claims to be a bee-keeper, who talks about the "king bee," and says he knows that the old queen stays in the hive when they swarm, the young queen going out. He has kept 125 colonies at one time in frame hives. J. B. RAMAGE.

Blaine, Wash., Jan. 9, 1894.

The Past Poor Seasons.

The bees in this part of Iowa, the past two or three seasons, have not been very encouraging; especially after so many good years. In the spring of 1892 many apiaries were very much reduced. The cause being, I think, from the want of proper breeding during the fall of 1891, thus dying of old age. My own 60 colonies, put into the cellar in good condition, dropped down to 8 (both in the cellar and soon after putting out). Want of young bees seemed to be the principal cause.

The spring of 1893, as far as I could learn, found the bees in pretty good condition, but the late, wet spring and dry July and August were against our honey crop of 1893; therefore, almost all report a short crop, especially where working for comb honey. I began with 18 colonies, increased to 40, working almost all for extracted honey, and took over 700 pounds. I put 40 colonies into the cellar, of which 10 may require some feeding before spring, or when put out, at least. The 5 colonies I worked for comb honey were almost a failure; as were also others that were worked for comb honey in this section.

LeGrand, Iowa. J. W. SANDERS.

Packing Bees for Winter, Etc.

I notice that several have written about how bees should be wintered. I am trying an experiment this winter with my bees. I had last fall 45 colonies, some of which I put heavy felt paper over, and some I put on oats chaff, making a box to fit the top of the hive, and tacking cloth on one side. I I laid two corncobs about 4 inches from each end, and that gives the bees room to cluster above the frames. On part of the bees I used cork-dust, just the same as I did the oats chaff, but I think that cork-dust is the best.

I got about 800 pounds of nice white honey last year, the most of it being linden, and if it had not turned so dry it would have been the best honey season we have had for some time.

JOHN PATTERSON.

McLean, Ills., Jan. 11, 1894.

Report for 1893, Etc.

My report of the honey crop for 1893 is this: From 26 colonies, spring count, I took 4,000 pounds of honey. My best colony gave me 415 pounds. They were Italian bees. I have moved my bees to Nolan county, 100 miles north of my old location. I moved them on a wagon. To any one who expects to move bees on a wagon, I would say, do not hitch mules to it, for if they happen to get stung, they will run; at least that was what they did for me.

There are a great many honey-plants here that I don't know any name for. Where can I send them so as to find out?

T. W. WHEELER.

Hylton, Tex., Jan. 12, 1894.

[You might send specimens of flowers to Prof. A. J. Cook, Claremont, Calif., who doubtless would name them for you. Be sure to enclose stamps for reply.—ED.]

Almost Harmed Harmer.

As it seems to be in order to tell one's experience with bees in the ear, I will relate mine.

One day in the summer of 1892, just after I had paid a visit to a cross colony of bees, I was standing not far from an open window, in the house, when a bee flew in and stung me in the ear. When trying to get it out, it marched on into my head. Well, it seemed as if it was losing no time in building its nest out of pieces of wire about half an inch long. It was not a very pleas-

ant feeling, but I was not much frightened, as it had left its sting outside, and you know bees never injure ripe fruit, and I thought my head was tougher than ripe fruit, but I was not so sure about the durability of the drum of my ear to stand the kicks of those sharp little toes.

I tried different ways, but nothing would coax it out, until a neighbor who was there, thought of and procured a hairpin which I inserted in my ear, when the bee came out head first. You see it had room to turn around in there, or perhaps I turned her around with the hairpin. I did not know there was such a hollow in my head; but I now know why I have not mastered the winter problem. Next.

Manistee, Mich. W. HARMER.

Bees Wintering Finely.

I looked at one colony of the 55 in my apiary; they had three Langstroth frames of brood and eggs, and are wintering finely. We have not yet had any snow here, and the weather is fine to-day. We had a poor season last year. I got 800 pounds of honey, and I secured 22 cents per pound for it six miles from home. B. F. BEHELER.

Jumping Branch, W. Va., Jan. 8, 1894.

Another Test (?) of Adulteration.

Procure at a drug-store a dram of nitrate of cloride of burium; dissolve in a few spoonfuls of water, then dissolve some of the honey in warm water in a clear, clean vial; add some of the burium solution, and shake it. Set it aside for half an hour. If a white powder appears at the bottom of the vial as a sediment, it contains sulphuric acid, and should be rejected.

Indianapolis, Ind. FRANK BURKHART.

Absconding Swarms, Etc.

I have at present 5 colonies of bees, all in good condition; 4 are packed in dry hickory forest leaves, in a bee-shed, open to the south. I lost all of my first swarms. The first came out on July 3rd, and clustered on an apple tree, and as soon as they were disturbed they started for the woods. I followed them up, and they only went half a mile and clustered on a wild cherry tree about 40 feet from the ground. They stayed there about three hours, then went in a very large oak tree at least 50 feet from the ground. I would give a premium of $5 if anybody could get them down unharmed.

WM. KITTINGER.

Caledonia, Wis., Jan. 16, 1894.

The American Italian Bees, Etc.

We had a poor honey crop in 1893. From 90 colonies (Italians 50, and hybrids 40) I averaged 50 pounds to the colony, or a total of 4,500 pounds, mostly extracted.

I have the beautiful, gentle 5-banded American Italians (Italians are 3-banded). Well, I just reared them—I did not know it until some one reported 5-banded bees. I dropped my BEE JOURNAL as quickly as a dog would drop a hot potato. I knew that I had bees with 4 bands, and thought that was all they could carry. But imagine my surprise, when I went to see if there was any room for more yellow bands on my beauties. The first colony that I examined were 5-banded. I do not a want a free advertisement. Let me tell you right now, I have no queens for sale—no, never! Yellow vs. mongrel bees. They are gentle, more beautiful, store more honey, and spend less time pottering around building brace and burr combs. You can raise the combs right out without using a smoker; and save 10 to 30 per cent. in time. 'Rah for the beautiful yellow American bees! A. M. HOYLE.

Daphne, Ala., Jan. 10.

Bees in Good Condition.

I have kept bees for 40 years. At present I have 105 colonies on the summer stands, and in good condition. The winter, so far, has been mild. I am interested in bees, and keep them for profit. Within an area of five miles, we have a number of bee-keeper novices who usually fail in getting honey. M. J. KISTLER.

Collingwood, Ind., Jan. 15.

Mild Winter—Bees All Right.

This has been a mild winter here so far. Bees have had a flight every week or two. To-day was a beautiful day, with a *hot* sun, and the bees made the most of it. I looked them over, and found them all right. The most of them had a little brood and eggs in the center of the cluster, and I wish to remark that I believe there is almost always some in winter, unless there is a long, cold spell of a month or two, which we don't often get here.

Last summer my bees did very well, both in quantity and quality—the nicest extracted honey I ever had.

THOS. THURLOW.

Lancaster, Pa., Jan. 15.

Wintering Bees in the Cellar, Etc.

Our 97 colonies of bees have been in the cellar two months. We got them in just as it commenced snowing, moving them very quietly. They are under the part of the house where fire is kept most of the time. The temperature has been from 46 to 50 degrees—a little higher than we usually like to have it, but as the bees were very quiet, I concluded to let it remain there. They are covered with quilts, and some with straw board, as an experiment. All are wintering alike good.

The cellar has a pipe from the bottom to the highest part of the roof, and a window in each end, covered with shutters inside and out, but no glass in yet. This has been sufficient to keep the temperature as above here in our mild climate of Michigan.

I looked over the bees in November, when preparing them for winter, that is,

seeing that all had good queens, and plenty of bees; and where they did not, they were either broken up or united with others. Where deficient in stores, or faulty combs, these were taken away, and good combs of sealed stores given them until we were sure that all had enough. I observed that the bees had no pollen. The long, severe drouth had not been favorable for pollen production, and they had used up apparently about all they had on hand, in rearing what young bees they had reared, and that was not many. So I predicted then that the bees would winter well, as they had nothing but white clover honey in the hives. So far they seem to be wintering the best we ever had them. I looked at them this afternoon, and there was not a spot on one of the hives, and I have not swept up four quarts of bees, all told.

What will the harvest be? There is a fine showing for all the fruit-blooms, hundreds and hundreds of acres of apple, peach, plum, pears, cherries, and other fruits, with probably 50 acres of raspberries, in reach of the bees. This is also the basswood year, and there will be some buckwheat, as there was none last year, as Nature rarely ever does the same thing twice. The clover was profuse, but, alas, the protracted drouth, I am afraid, knocked it all out, but there was an enormous crop of seed; that may come on if the weather is favorable; if not, our hope will have to stretch over into another year for it. J. A. PEARCE.

Grand Rapids, Mich., Jan. 8.

Nice Winter So Far, Etc.

We have had a nice winter so far. The mercury was 75 degrees to-day at noon. The bees are all right as far as I can see. A good many are playing out-doors in the sunshine. I winter them on the summer stands, 4 hives in a bunch—2 faced east and two west. I have a box about four inches wider around it, and this space packed with fine straw. In the top, across the frames, I lay about four corncobs, and then put on chaff cushions. On the east side of the house I placed 7 hives with straw packing around them. Last year I wintered my bees all right in that way, and I hope to do so this winter, too. G. RADEMACHER.

Bennett, Nebr., Jan. 31.

Fine Winter for the Bees.

We have had a fine winter so far. My bees seem to be enjoying themselves first-rate. I put 58 colonies into the cellar after a very poor year, only having taken 300 pounds of honey from 53 colonies, spring count, and the honey was badly contaminated with honey-dew, which spoiled it very much, but I shall try again. I do not believe in giving in for one or two poor years. I look for a good honey-flow next summer, and if it does not come, I will be disappointed, although I am not a prophet.

The BEE JOURNAL is always a welcome visitor, and I would not like to be without it. O. P. MILLER.

Glendon, Iowa, Jan. 15.

Scarcely Any Increase—No Surplus.

Bees did very poorly the last two seasons in our locality. I lost lots of bees last spring, had scarcely any increase, and no surplus honey. They had a small quantity and poor quality for winter unless fed. Later I will give my mode of transferring for beginners.

I am well pleased with the BEE JOURNAL, and think that any one keeping bees, if not more than one colony, should take and read it. M. W. LAIRD.

Milford, Ill., Jan. 13.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers at the club prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper:

	Price of both.	*Club.*
The American Bee Journal	$1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Review	2 00	1 75
Canadian Bee Journal	2 00	1 75
The Apiculturist	1 75	1 65
Progressive Bee-Keeper	1 50	1 35
American Bee-Keeper	1 50	1 40
Nebraska Bee-Keeper	1 50	1 35
The 8 above-named papers	6 25	5 25

"A Modern Bee-Farm and Its Economic Management," is the title of a splendid book on practical bee-culture, by Mr. S. Simmins, of England. It is 5¾x8½ inches in size, and contains 270 pages, nicely illustrated, and bound in cloth. It shows "how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man." It also illustrates how profits may be "made certain by growing crops yielding the most honey, having also other uses; and by judgment in breeding a good working strain of bees." Price, postpaid, from this office, $1.00; or clubbed with the BEE JOURNAL for one year, for $1.60.

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